MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/2023 (TERM ID 2210)

BAC3684 – SECURITIES INVESTMENT AND PORTFOLIO MANAGEMENT

(All sections / Groups)

17 FEBRUARY 2023
9.00am – 12.00pm
(3 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 2 **(TWO)** pages excluding cover page.
2. Answer **ALL FOUR** questions in the answer booklet provided.
3. Marks allocations are shown at the end of each question.

Question 1 (25 marks)

(a) You manage a risky portfolio with an expected rate of return of 18% and a standard deviation of 28%. The T-bill rate is 8%. Suppose that your client prefers to invest in your fund, a proportion "y" that maximizes the expected return on the complete portfolio with the constraint the complete portfolio's standard deviation will not exceed 18%.

(i) Calculate the investment proportion, y.

(5 marks)

(ii) Calculate the expected rate of return on the complete portfolio. **(5 marks)**

(b) Consider the following information about a risky portfolio that you manage and a risk-free asset: $E(rP) = 11\%$, $\sigma P = 15\%$, $rf = 5\%$.

(i) Your client wants to invest a proportion of her total investment budget in your risky fund to provide an expected rate of return on her overall or complete portfolio equal to 8%. What proportion should she invest in the risky portfolio, P? **(5 marks)**

(ii) What will be the standard deviation of the rate of return on her portfolio?

(5 marks)

(iii) Another client wants the highest return possible subject to the constraint that you limit his standard deviation to be no more than 12%. Which client is more risk averse?

(5 marks)

Question 2 (25 marks)

(a) Suppose that you have RM1 million and the following two opportunities from which to construct a portfolio:

- Risk-free asset earning 12% per year.
- Risky asset with expected return of 30% per year and standard deviation of 40%.

If you construct a portfolio with a standard deviation of 30%, what is its expected rate of return? **(9 marks)**

(b) Consider the following table, which gives a security analyst's expected return on two stocks in two particular scenarios for the rate of return on the market:

Market Return	Aggressive Stock	Defensive Stock
5%	−2%	6%
25%	38%	12%

(i) Calculate the betas of the two stocks. **(8 marks)**

Continued...

(ii) Calculate the expected rate of return on each stock if the two scenarios for the market return are equally likely. **(8 marks)**

Question 3 (25 marks)

(a) Using the following data, calculate the change in the confidence index from last year to this year. What besides a change in confidence might explain the pattern of yield changes?

	This Year	Last Year
Yield on top-rated corporate bonds	4%	7%
Yield on intermediate-grade corporate bonds	6%	9%

(10 marks)

(b) A newly issued bond pays its coupons once annually. Its coupon rate is 5%, its maturity is 20 years, and its yield to maturity is 8%. Find the holding-period return for a 1-year investment period if the bond is selling at a yield to maturity of 7% by the end of the year. **(15 marks)**

Question 4 (25 marks)

(a) Atech has fixed costs of RM7 million and profits of RM4 million. Its competitor, BioTech, is roughly the same size and this year earned the same profits, RM4 million. However, BioTech operates with fixed costs of only RM5 million but higher variable costs.

(i) Which firm has higher operating leverage? **(10 marks)**

(ii) Which firm will likely have higher profits if the economy strengthens? **(5 marks)**

(b) A firm pays a current dividend of RM1.00, which is expected to grow at a rate of 5% indefinitely. If current value of the firm's shares is RM35.00, calculate the required return based on the constant-growth dividend discount model (DDM). **(5 marks)**

(c) Tri-coat Paints has a current market value of RM41 per share with earnings of RM3.64. Calculate the present value of its growth opportunities (PVGO) if the required return is 9%. **(5 marks)**

End of Pages